

A NEW SPECIES OF CYPRAEA FROM HAWAII

BY J. M. OSTERGAARD

As one of the rewards for his keen interests and energetic efforts to increase our knowledge of the molluscan fauna of Hawaii, Mr. Charles A. Allen, former President of the Malacological Society of Hawaii, secured a specimen of what appears to be a new species of *Cypraea*.

Mr. Allen dredged the mollusk in a living state from a depth of about 80 feet, one mile from Nawiliwili Bay, and 1500 yards off the leeward shore of the Island of Kauai, Hawaiian Islands, on April 25, 1949.

The shell was turned over to the author for study; and, after a careful diagnosis and comparison with related species, he has arrived at the conclusion that it is new and is therefore naming it for the discoverer, Mr. Allen.

CYPRAEA ALLENI new species. Pl. 8, 3 figs.

Shell ovate, depressed, sides thickened and margined, pitted throughout the length of the outer margin and above anterior canal as well as at anterior and posterior ends of inner margin. Spire depressed and concealed, slightly umbilicated. A light-brown zone with numerous rounded dark-brown dots of varying sizes extends from the margins about half way to the mid-dorsal region. The dorsal region lying between the marginal zones is of a cream yellow evenly sprinkled with minute white dots, inconspicuous on their light background; while faint brown ocelli with large eccentric white pupils occur fairly evenly among the white dots. Dorsal line indicated by transverse striations of the white "pupils" of the ocelli. Base, teeth, interstices, as well as columella, white. Aperture straight, narrow; teeth fine, numbering on outer lip 21, on inner lip 17. Length of shell 22 mm., width 16 mm.

This species is probably most closely related to *Cypraea ostergaardi* Dall, which it resembles in form, teeth and aperture, but departs radically from it in its markings. In markings and general coloration, it shows some resemblance to *Cypraea spurca* Linnaeus; but, unlike that species, the aperture in *Cypraea allenii* is straight and of equal width and the teeth are finer.

The number of teeth present has been stated, since it might prove of some value; but, as is a known fact, the fluctuation in the number of these structures in *Cypraea* is great within the species, even considerable among individuals from the same colony.

The solitary specimen, being the holotype, is in Mr. Allen's collection.

LOCOMOTION IN LIMA

By JOSHUA L. BAILY, JR.

"The Lima . . . darts through the water like a scallop, but in a contrary posture. The hinder end instead of the ventral end is in front, so that the mode of its progression may be compared to that of a fish swimming tail foremost." So wrote Gwyn Jeffreys¹ in 1863, and his statement has been accepted uncritically and repeated by Tryon.² The present writer vaguely recalls having seen the same statement in Dall's writing, but cannot now find the bibliographic reference.

Authorities are by no means agreed on this matter, since ten years before Jeffreys, Forbes, and Hanley³ had stated that "The rounded extremity is that which is in front and the beaks behind, when the animal moves."

In 1860, Reeve,⁴ quoting from Landsborough,⁵ stated "Its mode of swimming is the same as that of the scallop." And Sowerby⁶ made the astonishing observation that "The animal makes use of the valves of his shell for swimming, working them like fins or paddles. . . ."

Recently the present writer has been privileged to examine three specimens of the local species, now known as *Lima hemp-hilli* Hertlein and Strong,⁷ but which generally has been referred

¹ British Conchology, vol. 2, p. 77, 1863.

² Structural and Systematic Conchology, vol. 3, p. 286, 1884.

³ British Mollusca, vol. 2, p. 267, 1853.

⁴ Elements of Conchology, vol. 2, p. 60, 1860.

⁵ Excursions to Arran, p. 319.

⁶ Conch. Manual, p. 183, 4th ed., 1852.

⁷ Zoölogica, vol. 31, pt. 2, p. 66, 1946.